

## SHORT COMMUNICATIONS

**Noctuid moths (Lepidoptera: Noctuidae) probing at slug mucus.** – While sugaring for moths at Ladycross Inclosure, New Forest, Hampshire (SU335030: VC11 ) on the night of 11–12.ix.2002, I noticed at 00.15 h a Dark Crimson Underwing moth *Catocala sponsa* (L.) probing a molluscan slime trail with its proboscis. The mollusc was no longer present, and the trail, about 1.5 m up the trunk of an oak tree, appeared somewhat dry. However, since the trail was in contact with an earlier-applied patch of sugar, the probing may have been stimulated simply by its proximity to or contamination with the sugaring mixture. The mixture, comprising black molasses, maple syrup, puréed over-ripe banana and a few drops of non-toxic amyli acetate (pentyl ethanoate), had on previous occasions proven attractive also to molluscs. The tree was one situated to the west of the main gravel ride and distinguishable by its numerous insect boreholes and slow persistent sap run.

At 00.25 h I observed a Svensson's Copper Underwing moth *Amphipyra berbera svenssoni* Fletcher directly probing the body of a Leopard slug *Limax maximus* L. The slug, about 1.5 m up the trunk of an oak to the east of the track, was oriented downwards and moving slowly over bark. The moth was perched alongside the slug and probing its lower right side and back. Slugs will climb trees to graze lichens and algae growing on the bark (Kerney *et al.*, 1979), but there was no slime trail to suggest an earlier visit to a sugar patch approximately 60 cm to the left. Its mucus is thus assumed to have been uncontaminated.

Some tropical Pyralidae, Geometridae and Noctuidae are known to frequent mammalian eye secretions for salts (Smith, 1973), while some British and European butterflies – notably the vanessids (Nymphalidae) and certain blues (Lycaenidae) – will settle in hot weather on bare human skin to imbibe sweat. However, apart from an instance of Middle-barred Minor *Oligia fasciuncula* (Haworth) imbibing saliva licked onto a car window by cows (Christmas, 2002), the probing of animal secretions by British moths appears to be unreported.

Tears and sweat are rich in sodium, which is the main attractant in dung (Jones, 2000; Wilson, 2001). Mucus comprises mainly water and mucin (Barnes, 1987) – a mucoprotein made up of many disaccharide units bound to a protein chain (Allaby, 1999), but as neither a literature search nor an enquiry to the British Museum (Natural History) located any reference to mucus salt content, sodium is assumed not to be present at a significant level.

The simplest explanation for the probing is that the moths were seeking moisture. In *L. maximus* the mucus is colourless and sticky on both the body and foot (Kerney *et al.*, 1979). However, shearing forces caused by land molluscs' body movements make the mucus locally less gelatinous and more like a solution (Barnes, 1987), which may account for the probing by the *A. b. svenssoni* of an active slug rather than its trail.

The importance of mucus as an energy source is unknown, but the sugars bound up in mucin are expected to be less immediately available for metabolism than the free sugars present in sap, honeydew, nectar or bramble fruits. Some Lepidoptera need proteins in their diet and about ten different amino acids can be obtained from nectar. However non-nectar feeders may need supplementary sources (Best, 2003). The fruit-piercing Malayan noctuid *Calyptra eustrigata* (Hampson), for instance, will penetrate human skin with its proboscis to imbibe blood (Smith, 1973; <http://www.earthlife.net/insects/lepidop2/html#3>).

Both *C. sponsa* and *A. b. svenssoni* were recorded earlier that evening at sugar, and both have been previously observed at the sap run (David Green, pers. com.). Their

use of these resources may depend on an ability to secrete small amounts of liquid from the tip of the proboscis, but its role in facilitating the ingestion of nutrients from drier mucus will require investigation.

Probing at mollusc mucus may be a relatively common moth behaviour, but overlooked on account of its nocturnal occurrence and the tendency of entomologists who use sugar to focus their attention on the bait. Placing wild or bred moths with slugs in cages under controlled experimental conditions – possibly using the Red Underwing *C. nupta* (L.) in place of the scarcer *C. sponsa* – could help confirm its prevalence and purpose, while a consideration of species' preferred known food sources could provide further insights. For example, a weakness for wine ropes – as displayed by late summer *Catocala* – might indicate a more general fruit-feeding habit, while species recorded at sugar would be expected to be better represented by honeydew or sap feeders than by those that typically frequent flowers.

I thank Dr Peter Mordan of the British Museum (Natural History) for assistance with a literature search. The work was carried out under New Forest Special Permissions – Insect Permit number 148/1999–2004. A copy of this report has been forwarded to Forest Enterprise. – LEONARD WINOKUR, Flat 3, Charles Court, 7 Darwin Road, Southampton, Hampshire SO15 5BS.

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#### ***Chrysolina americana* (L.) (Coleoptera: Chrysomelidae) reaches East Kent in 2004.**

Faversham residents were invited to bring along insects for identification to the public library as part of National Insect Week, 14–20 June 2004. In addition to the long list of stag beetle records from the town and surrounding villages of Boughton-under-Blean, Selling and North Street (best quote: one landed on my shoulder as I entered the parish church last week), I was presented with a jar containing two *Chrysolina americana* collected near the town centre on 20.vi.2004. This is the first record of this beetle in east Kent (VC15) known to the author. The beetle was reported as occurring in large numbers and visibly stripping a rosemary bush in the owner's garden. Andrew Salisbury has since informed me that there are records of *C. americana* from Bromley and West Wickham, West Kent in 2001 and post-National Insect Week from Shottenden, south of Faversham on 2nd July on the RHS database. = J.S. BADMIN, Coppice Place, Selling, Kent ME13 9RP.